REMARKS

Claims 1-22, 28, and 29 are now pending in the application. No amendments are made in this response. The Examiner is respectfully requested to reconsider and withdraw the rejections in view of the amendments and remarks contained herein.

The Applicant would like to note that an Information Disclosure Statement was mailed on August 31, 2004 and request that the Examiner review the same and indicate as such by initialing by each of the references cited in the Form 1449.

Further, the Applicant notes that a Petition to Correct Inventorship was filed and included in the response mailed May 23, 2004. The Applicant would like to ensure that such Petition is being considered and is granted.

PROVISIONAL DOUBLE PATENTING REJECTION

Claims 1-14 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over Claims 2, 4-6, 9, 11-14, 27, 29-31, 34 and 36-39 of co-pending Application No. 09/494,213.

Although the claims for the '213 application have not been issued and the double patenting rejection is merely provisionally, in order to expedite prosecution of the present application, the Applicant is filing a Terminal Disclaimer disclaiming the terminal portion of any patent that may issue from the present application that would extend longer than any patent that would issue from the '213 application. Therefore, the Applicant submits that the provisional rejection has been rendered moot and request that the Examiner remove the same.

REJECTION UNDER 35 U.S.C. § 102

Claims 1, 7, and 8 stand rejected under 35 U.S.C. §102(e) as being anticipated by Bladen et al. (U.S. Patent No. 5,913,820). This rejection is respectfully traversed.

Independent Claim 1 recites "inducing within said sensing coil a set of orientation signal values each representative of an orientation of said sensing coil and independent of a position of said sensing coil; determining the orientation .... inducing within said sensing coil a set of positional signal values ... determining the position of said sensing coil using said positional signal values and said determined orientation." Independent Claim 7 recites "a system ... comprising: first transmit means ... to induce signal values within said sensing coil representative of an orientation of said sensing coil and independent of the position of said sensing coil; second transmit means ... to induce signal values within said sensing coil representative of the position of said sensing coil; and analysis means ... for determining the position and orientation of said sensing coil from said induced signal values." Also, independent Claim 8 recites "a system ... comprising: first signal-inducing means for inducing within said sensing coil orientation signals that are representative of the orientation of said sensing coil; analysis means ... for determining the orientation of said sensing coil using said induced orientation signals and independent from a position of said sensing coil; second signal-inducing means ... analysis means ... for determining the position of said sensing coil using said determined orientation and said induced position signals."

Contrary to this, Bladen et al. teaches an algorithm for determining a location of a sensor and an orientation of the sensor using information relating to the location of the sensor. In particular, three field generators are used to determine the x-y-z coordinates

of the sensor as described using various mathematical computations. *See*, column 7, lines 59-66. The orientation of the sensor is determined by an iterative procedure in which the estimate of the x-y-z coordinates of the sensor, derived from the values of R for each of the three field generators, are used for each of the nine generating coils in the field generators. *See*, column 8, lines 7-18. As described in Bladen et al., the location of the sensor can be determined using an iterative process to determine appropriate values of α to determine R to determine the location of the sensor. Thus, the location and the orientation of the sensor are determined together as α and R are iterated together to also determine the orientation of the sensor.

Therefore, Bladen et al. does not teach at least the quoted elements of independent Claims 1, 7, and 8. Bladen et al. simply teaches algorithms for determining a vector location and orientation of a sensor, while independent Claim 1 and 8 provide a method for inducing signal values that are representative of an orientation independent of position and signal values that are representative of positions of the sensing coil and then determining a position using both signal values.

Further, independent Claim 8 recites a first signal inducing means for inducing the orientation signals that are representative of orientation and a second signal inducing means for inducing the signals that are representative of the position of the sensing coil. Bladen et al. does not describe a first signal inducing means and a second signal inducing means for inducing signals representative of orientation and representative of position where an analysis means is used to determine an orientation of the sensing coil independent of a position of the sensing coil.

Further, independent Claim 7 includes a first transmit means and a second transmit means. Bladen et al. includes a single means for transmitting a magnetic field to induce a voltage in a sensor. Therefore, Bladen et al. does not teach a first transmit means to induce signal value in a sensing coil, that is representative of orientation independent of position, and a second transmit means for inducing signal values representative of position of a sensing coil.

Therefore, because Bladen et al. does not teach each of the elements of presently pending independent Claims 1, 7, and 8, each of these claims are in condition for allowance as are each of the claims that depend directly or indirectly therefrom. Also each of the dependant claims recite portions that are also allowable in light of Bladen et al. and the Examiner seems to agree as each of the dependant claims were not rejected based on Bladen et al. Further, as noted above, the Applicant is filing herewith a Terminal Disclaimer to obviate the rejection to Claims 1-14.

ALLOWABLE SUBJECT MATTER

The Applicant thanks the Examiner for allowing Claims 15-22, 28 and 29.

SUPPLEMENTAL DECLARATION

The Applicant thanks the Examiner for the reminds relating to the need for a Supplemental Declaration. The Applicant, however, will provide a newly executed Supplemental Declaration once the Applicant has received a Notice of Allowance to the pending claims.

CONCLUSION

It is believed that all of the stated grounds of rejection have been properly traversed, accommodated, or rendered moot. Applicant therefore respectfully requests that the Examiner reconsider and withdraw all presently outstanding rejections. It is believed that a full and complete response has been made to the outstanding Office Action, and as such, the present application is in condition for allowance. Thus, prompt and favorable consideration of this amendment is respectfully requested. If the Examiner believes that personal communication will expedite prosecution of this application, the Examiner is invited to telephone the undersigned at (248) 641-1600.

Respectfully submitted,

Dated: _Dec. 30, 2004_
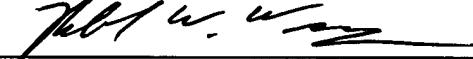
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